SEQUENCE LISTING

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Stutzman-Engwall, Kim
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<210> 8
<211> 28
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<220>
<223> Primer

<400> 8
taagatcttc cgacctacgc cttccaac 28

<210> 9

<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 9
taatgcatcg acctcgttgc gtgccgcggt 30

<210> 10
<211> 39
<212> DNA
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<220>
<223> Primer

<400> 10
atagatctgc ctacgtaccc gttcgaacac cagcgcttc 39

<210> 11
<211> 50
<212> DNA
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<220>
<223> Primer

<400> 11
atcctcaggt tcggccctgc cgcctcggcc tgcccggcgg cgcgcagctt 50

<210> 12
<211> 28
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<220>
<223> Primer

<400> 12
taagatcttc cgacgtacgc gttccagc 28

<210> 13
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 13
atgctagcca ctgcgccgac gaatcaccgg tgg 33

<210> 14
<211> 30
<212> DNA
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<220>
<223> Primer

<400> 14
taagatctcc ctacgtaccc cttcaaccac 30

<210> 15
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 15
gctagccgcc gcgccagctc gggc 24

<210> 16
<211> 29
<212> DNA
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<220>
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<400> 16
cctacgtacg ccttcgacca ccagcactt 29

<210> 17
<211> 30
<212> DNA
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<220>
<223> Primer

<400> 17
cggctagcgg gcgttccagg ccgccgtcct 30

<210> 18
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 18
tacctgaggg accggctagc gggtctgccg cgtg 34

<210> 19
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 19
atgctagccg ttgtgccggc tcgccggtcg gtcc 34

<210> 20
<211> 34
<212> DNA
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<220>
<223> Primer

<400> 20
gacgccgaat tcttcggcat cagcccccgc gaag 34

<210> 21
<211> 63
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 21
gagctagcag gtggggagat ctaggtgggt gtgggtgtgg ggttggttgt ggtggtgggt 60
gta 63

<210> 22
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 22
gcccggctag ccggccagac acacgaacaa cagc 34

<210> 23
<211> 34
<212> DNA
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<220>
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<400> 23
gggaattcct cgaggatgac gtgggcgttg gtgc 34

<210> 24
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 24
taagatctag cgctccgagg ttcttgcccg 30

<210> 25
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 25
atgctagcct accgctgccc gggtccgccg 30

<210> 26
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 26
cctagatccg cccacctacc ccttccaaca ccag 34

<210> 27
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 27
tgggctagcg ttttgtgcaa ctccgccggt ggagtg 36

<210> 28
<211> 37
<212> DNA
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<220>
<223> Primer

<400> 28
tggctgcaga gctcacagcc gggtgccgga tccggtt 37

<210> 29
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 29
tttcctcagg tccgccggtg gagtggggcg ctggac 36

<210> 30
<211> 42
<212> DNA
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<220>
<223> Primer

<400> 30
cctagatctc cccacctacc ccttccaaca ccaccactac tg 42

<210> 31
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 31
ccggctagcc gggcgtgcag ctgggcgccg ttgtccgcac 40

<210> 32
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<213> Artificial Sequence

<220>
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<400> 32
ccctacgtac cccttccaac accactactg gctcgaaag 39

<210> 33
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 33
ggccctcagg tgggcgccgt tgtccgcacc accggta 37

<210> 34
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 34
tacctaggca ccaccacaac ccgggta 27

<210> 35
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 35
tacaattggc ccgcgagtcc ccgacgct 28

<210> 36
<211> 35
<212> PRT
<213> Streptomyces erythraea

<400> 36
Val Ala Val Asp Trp Glu Ala Val Leu Gly Arg Ala Gly Leu Val Asp
1 5 10 15
Leu Pro Gly Tyr Pro Phe Gln Gly Lys Arg Phe Trp Leu Leu Pro Asp
20 25 30
Arg Thr Thr
35

<210> 37
<211> 35
<212> PRT
<213> Streptomyces erythraea

<400> 37
Val Thr Thr Ala Pro Ser Glu Arg Ala Gly Glu Pro Glu Thr Glu Ser
1 5 10 15
Leu Arg Asp Arg Leu Ala Gly Leu Pro Arg Ala Glu Arg Thr Ala Glu
20 25 30

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Leu Val Arg
        35

      <210> 38
      <211> 41
      <212> PRT
      <213> Streptomyces erythraea

      <400> 38
Val Ala Val Asp Trp Glu Ser Val His Leu Gly Thr Gly Ala Arg Arg
 1               5                  10                  15
Val Pro Leu Pro Thr Tyr Pro Phe Gln Arg Glu Arg Val Trp Leu Glu
            20                  25                  30
Pro Lys Pro Val Ala Arg Arg Ser Thr
        35                  40

      <210> 39
      <211> 33
      <212> PRT
      <213> Streptomyces erythraea

      <400> 39
Asp Asp Ala Arg Arg Ala Ala Pro Gly Ala Pro Ala Glu Pro Arg Val
 1               5                  10                  15
Gly Ala Leu Ala Ser Leu Pro Ala Pro Glu Arg Glu Glu Ala Leu Phe
            20                  25                  30
Glu


      <210> 40
      <211> 41
      <212> PRT
      <213> Streptomyces erythraea

      <400> 40
Val Gly Ala Asp Leu Arg Pro Ala Val Ala Gly Gly Arg Pro Ala Glu
 1               5                  10                  15
Leu Pro Thr Tyr Pro Phe Glu His Gly Arg Phe Trp Pro Arg Pro His
            20                  25                  30
Arg Pro Ala Asp Val Ser Ala Leu Gly
        35                  40

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      <210> 41
      <211> 35
      <212> PRT
      <213> Streptomyces erythraea

      <400> 41
Arg Ala Lys Leu Arg Ala Ala Gly Gly Ala Glu Ala Ala Gly Pro Asn
 1               5                  10                  15
Val Val Asp Arg Leu Ala Gly Arg Ser Glu Ser Asp Gln Val Ala Gly
            20                  25                  30
Leu Ala Glu
        35

      <210> 42
      <211> 38
      <212> PRT
      <213> Streptomyces erythraea

      <400> 42
Val Glu Val Asp Trp Ser Pro Ala Phe Ala Asp Ala Arg Pro Val Glu
 1               5                  10                  15
Leu Pro Val Tyr Pro Phe Gln Arg Gln Arg Tyr Trp Leu Pro Ile Pro
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            20                  25                  30
Thr Gly Gly Arg Ala Arg
        35
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<210> 43
<211> 34
<212> PRT
<213> Streptomyces erythraea

<400> 43

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Ala Gly Ala Arg Ala Glu Ala Arg Gln Ser Glu Glu Gly Pro Ala Leu
 1               5                  10                  15
Ala Gln Arg Leu Ala Ala Leu Ser Thr Ala Glu Arg Arg Glu His Leu
            20                  25                  30
Ala His
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<210> 44
<211> 40
<212> PRT
<213> Streptomyces hygroscopius

<400> 44

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Val Thr Val Asp Trp Pro Ala Ile Leu Gly Thr Thr Thr Ala Arg Val
 1               5                  10                  15
Leu Asp Leu Pro Thr Tyr Ala Phe Gln His Gln Arg Tyr Trp Val Lys
            20                  25                  30
Ser Val Asp Arg Ala Ala Ala Asp
        35                  40
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<210> 45
<211> 32
<212> PRT
<213> Streptomyces hygroscopicus

<400> 45

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Arg Pro Ile Ala Arg Arg Ala Ala Ser Thr Gly Asp Ser Ser Val Gln
 1               5                  10                  15
Trp Leu Ala Ala Leu Ala Pro Glu Glu Arg Ala Lys Ala Leu Leu Arg
            20                  25                  30
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<210> 46
<211> 40
<212> PRT
<213> Streptomyces hygroscopicus

<400> 46

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Val Thr Val Asp Trp Pro Ala Ile Leu Gly Thr Ala Thr Thr Arg Val
 1               5                  10                  15
Pro Asp Leu Pro Thr Tyr Ala Phe Gln His Gln Arg Phe Trp Ala Glu
            20                  25                  30
Gly Ala Asp Arg Ser Val Ala Gly
        35                  40
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<210> 47
<211> 32
<212> PRT
<213> Streptomyces hygroscopicus

<400> 47

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Arg Pro Val Ala Arg Arg Ala Ala Ser Thr Gly Gly Ser Ser Val Gln
 1               5                  10                  15
Trp Leu Ala Arg Leu Ala Pro Val Glu Arg Glu Lys Ala Leu Leu Lys
            20                  25                  30
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<210> 48
<211> 44
<212> PRT
<213> Streptomyces hygroscopicus

<400> 48
Val Thr Val Asp Trp Arg Ala Val Leu Gly Asp Val Pro Ala Thr Arg
1 5 10 15
Val Leu Asp Leu Pro Thr Tyr Ala Phe Gln His Gln Arg Tyr Trp Ala
20 25 30
Glu Ala Gly Arg Ser Ala Asp Val Ser Ala Ala Gly
35 40

<210> 49
<211> 32
<212> PRT
<213> Streptomyces hygroscopicus

<400> 49
Arg Pro Val Ala Arg Arg Ala Ala Ser Thr Gly Asp Ser Ser Ala Gln
1 5 10 15
Trp Leu Val Gly Leu Ala Pro Glu Glu Arg Ala Lys Ala Leu Leu Lys
20 25 30

<210> 50
<211> 40
<212> PRT
<213> Streptomyces hygroscopicus

<400> 50
Val Thr Val Asp Trp Pro Ala Ile Leu Gly Thr Thr Thr Thr Arg Val
1 5 10 15
Leu Asp Leu Pro Thr Tyr Ala Phe Gln His Gln Arg Tyr Trp Leu Lys
20 25 30
Ser Val Asp Arg Ala Ala Ala Asp
35 40

<210> 51
<211> 35
<212> PRT
<213> Streptomyces hygroscopicus

<400> 51
Arg Pro Gln Ser Arg Thr Ala Ala Arg Asn Glu Val Gly Ser Gln Pro
1 5 10 15
Leu Ser Ala Arg Leu Thr Gly Arg Thr Ser Val Glu Gln His Arg Ile
20 25 30
Met Leu Glu
35

<210> 52
<211> 24
<212> PRT
<213> Streptomyces avermitilis

<400> 52
Thr His Pro His Pro His Thr His Leu Asp Leu Pro Thr Tyr Pro Phe
1 5 10 15
Gln His Gln His Tyr Trp Leu Glu
20

<210> 53
<211> 25

<212> PRT
<213> Streptomyces avermitilis

<400> 53
Pro Thr Pro Pro Ala Glu Leu His Lys Thr Leu Ala His Gln Thr Ser
1 5 10 15
Ala Asp Gln Arg Ala Ala Leu Leu Glu
20 25

<210> 54
<211> 24
<212> PRT
<213> Streptomyces avermitilis

<400> 54
Asn Gly Pro His Thr His Thr His Leu Asp Leu Pro Thr Tyr Pro Phe
1 5 10 15
Gly His His His Tyr Trp Leu Glu
20

<210> 55
<211> 25
<212> PRT
<213> Streptomyces avermitilis

<400> 55
Ala Asp Asn Gly Ala Gly Leu His Ala Arg Leu Ala Gly Gln Thr His
1 5 10 15
Glu Gln Gly His Thr Thr Leu Leu Ala
20 25

<210> 56
<211> 122
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 56
ctaggccggg ccggactggt agatctgcct acgtatcctt tccagggcaa gcggttctgg 60
ctgcagccgg accgcactag tcctcgtgac gagggagatg catcgagcct gagggaccgg 120
tt 122

<210> 57
<211> 118
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 57
aaccggtccc tcaggctcga tgcatctccc tcgtcacgag gactagtgcg gtccggctgc 60
agccagaacc gcttgccctg gaaaggatac gtaggcagat ctaccagtcc ggcccggc 118

<210> 58
<211> 66
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 58
ctaggccggg ccggactggt agatctgcct acgtatcctt tccagggcaa gcggttctgg 60
ctgcag 66

<210> 59
<211> 62
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 59
ctgcagccag aaccgcttgc cctggaaagg atacgtaggc agatctacca gtccggcccg 60
gc 62

<210> 60
<211> 56
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 60
ccggaccgca ctagtcctcg tgacgaggga gatgcatcga gcctgaggga ccggtt 56

<210> 61
<211> 56
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide

<400> 61
aaccggtccc tcaggctcga tgcatctccc tcgtcacgag gactagtgcg gtccgg 56